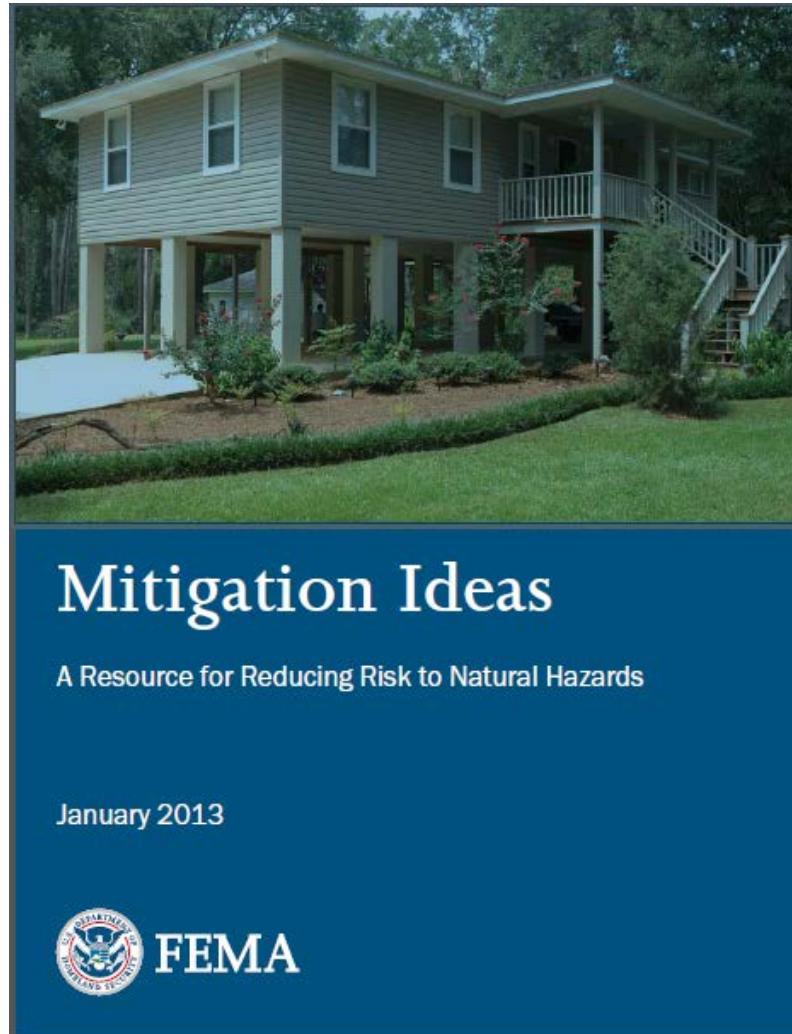


# Reoccurring Upper Fox Flood Risk Comments

- **Areas of development, Zone A's – new studies needed**
- **Inaccurate floodplain maps, LOMC clusters, and severe erosion resulting in streams needing to be remodeled**
- **Overtopped roads**
- **Repetitive loss properties / buyouts**
- **Residential flooding**

# Mitigation Actions



# Areas of development, Zone A's – new studies needed

- Identify clearly where studies and mapping are needed – make the case to FEMA
- Require LOMRs with detailed studies
- Sponsor surveying or other technical data to leverage FEMA funding
- Manage the Floodplain Beyond Minimum Requirements
  - Limiting floodplain development through regulatory and/or incentive-based measures.
  - Limiting the density of developments in the floodplain.
  - Requiring that floodplains be kept as open space.
  - Limiting the percentage of allowable impervious surface within developed parcels.
  - Developing a stream buffer ordinance to protect water resources

# Inaccurate floodplain maps, LOMC clusters, and severe erosion resulting in streams needing to be remodeled

- Identify clearly where studies and mapping are needed – make the case to FEMA
- Sponsor surveying or other technical data to leverage FEMA funding
- Completing and maintaining FEMA elevation certificates for pre-FIRM and/or post-FIRM buildings as well as new and improved buildings in the floodplain
- Developing a stream buffer ordinance to protect water resources

# Overtopped roads

- Identify and inventory all overtopped roads during flood events and from flood studies, especially those that limit access to critical facilities or residences
- Prepare an evacuation plan for emergency management
- Prepare a plan to close roads
- Develop a plan and prioritize repairs and replacements
- Repair or replace culverts / elevate roads to accommodate 1% annual chance flood
- Include in your Mitigation Plans

# Repetitive loss properties / buyouts

- Keep Mitigation Plan up to date
- Participate in NFIP and CRS
- Complete and maintain records of FEMA elevation certificates for pre-FIRM and/or post-FIRM buildings as well as new and improved buildings in the floodplain
- Obtain depth grid data and using it to illustrate flood risk to citizens.

# Residential flooding

- Complete stormwater drainage study for known problem areas.
- Improve Stormwater Management Planning
- Adopt Policies to Reduce Stormwater Runoff
- Educate Property Owners about Flood Mitigation Techniques and flood proofing

# Ice jams

- Identify and track locations where ice jams occur
- Add or increase “freeboard” requirements (feet above base flood elevation) in the floodplain management ordinance
- Target outreach to encourage purchase of flood insurance in impact areas outside of the mapped floodplain



# RiskMAP Datasets/Products

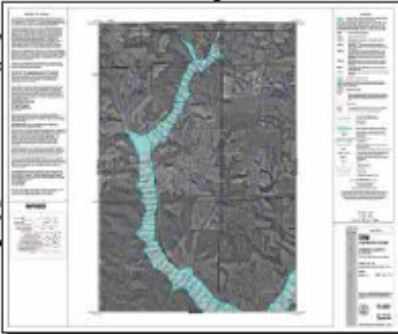
## Traditional Regulatory Products

**DFIRM Database**

- Flood\_Hazard\_Data
- Political\_Boundaries
- Public\_Land\_Survey\_System
- TopoData
- Community\_Panel
- L\_Comm\_Info
- L\_MF1\_L\_OMC
- L\_Pan\_Revis
- L\_Pol\_FHBM
- L\_Riv\_Model
- L\_Sfn\_Start
- L\_Wfb\_Fin
- S\_Bfe
- S\_DPOQ\_Index
- S\_Firm\_Pan
- S\_Sem\_Struct
- S\_Label\_Ld
- S\_Label\_Pt
- S\_L\_OMR
- S\_Perm\_Bnk
- S\_Quad
- S\_Riv\_Mrk
- S\_Transport\_Ar

**FLOOD INSURANCE STUDY**

**FLOOD COUNTY USA AND INCORPORATED**



Traditional products are regulatory and subject to statutory due-process requirements

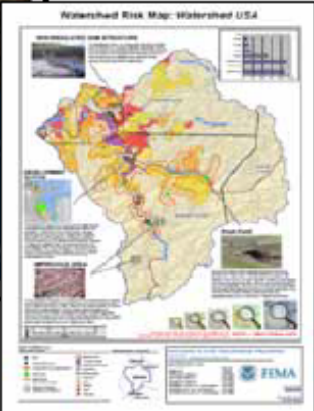

## Non-Regulatory Products

**Flood Risk Database**

- www.riskmap.gov
- DATA SETS
- 1. Flood Hazard Data
- 2. Political Boundaries
- 3. Public Land Survey System
- 4. Topographic Data
- 5. Community Panel
- 6. L\_Comm\_Info
- 7. L\_MF1\_L\_OMC
- 8. L\_Pan\_Revis
- 9. L\_Pol\_FHBM
- 10. L\_Riv\_Model
- 11. L\_Sfn\_Start
- 12. L\_Wfb\_Fin
- 13. S\_Bfe
- 14. S\_DPOQ\_Index
- 15. S\_Firm\_Pan
- 16. S\_Sem\_Struct
- 17. S\_Label\_Ld
- 18. S\_Label\_Pt
- 19. S\_L\_OMR
- 20. S\_Perm\_Bnk
- 21. S\_Quad
- 22. S\_Riv\_Mrk
- 23. S\_Transport\_Ar

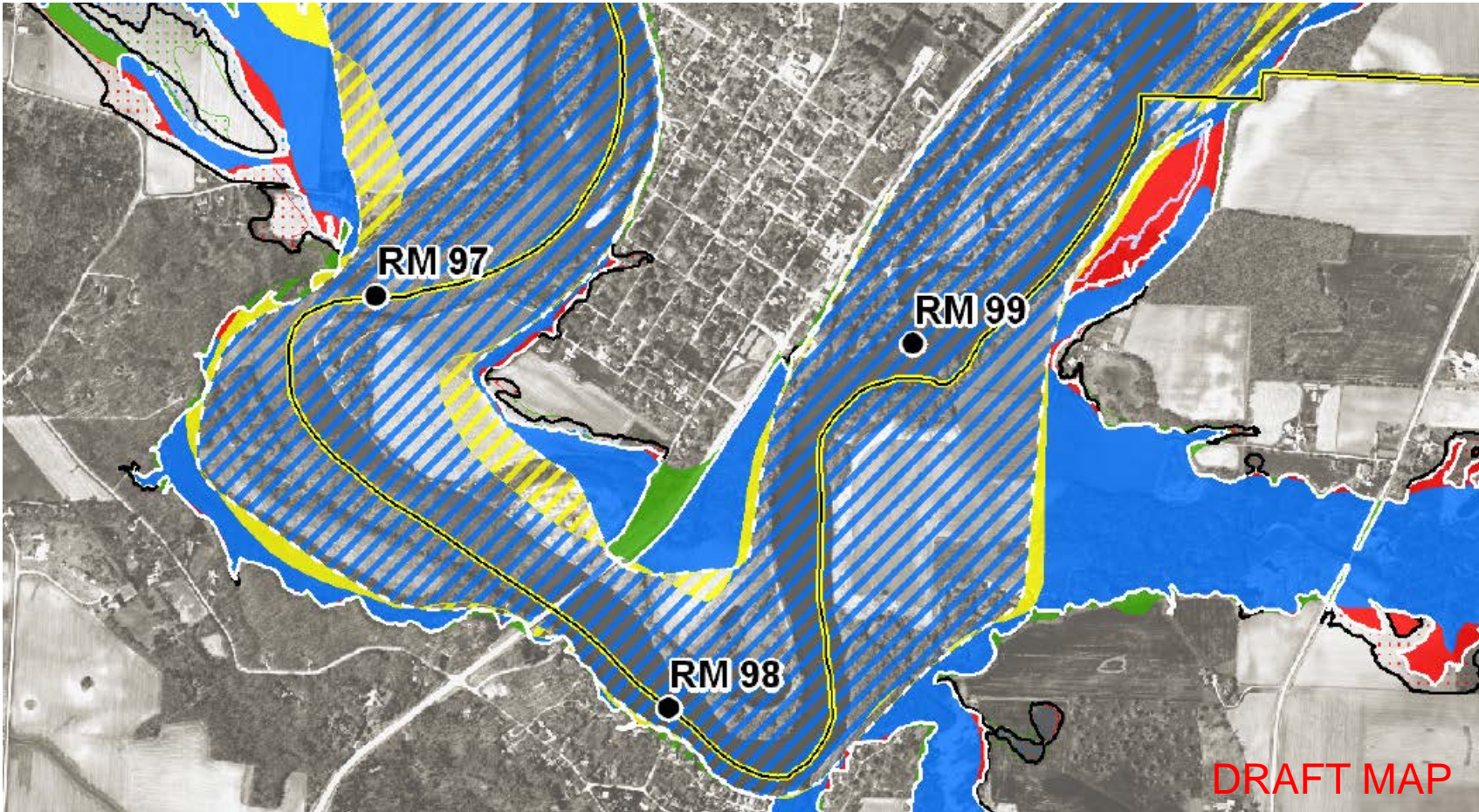
**Flood Risk Report**

**Watershed Risk Map: Watershed USA**

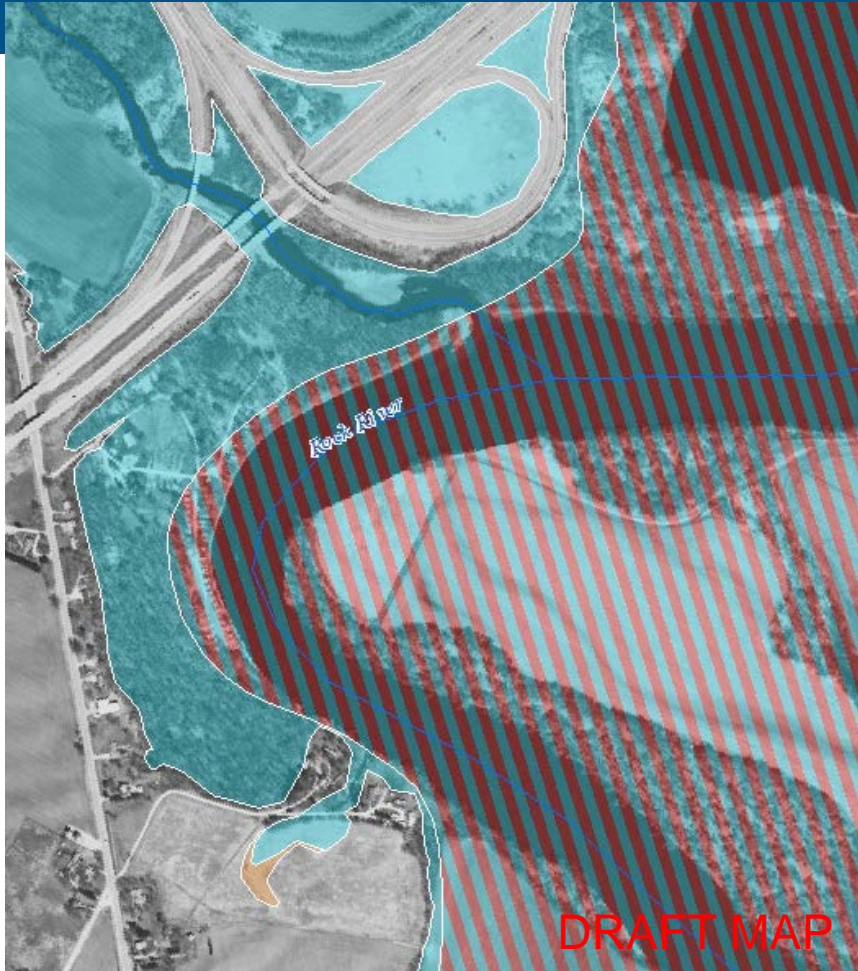


Risk MAP products are non-regulatory and are not subject to statutory due-process requirements

# Changes Since Last FIRM



# In or Out?



# How Deep?

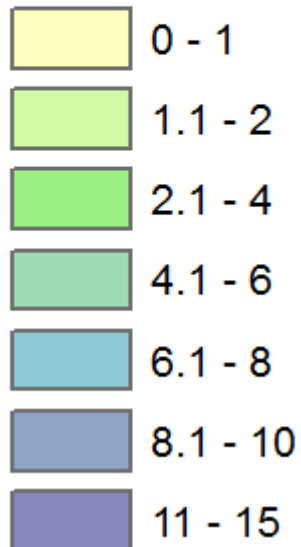


# Depth Grids

## Legend

rr100depth

<VALUE>



# Flood Risk Assessment



	Total Inventory		Estimated Potential Losses for Flood Event Scenarios	
			1% (100-yr)	
	Estimated Value	% of Total	Dollar Losses	Loss Ratio
Residential Building/Contents	\$10,000,000	75%	\$7,500,000	20%
Commercial Building/Contents	\$15,000,000	15%	\$5,000,000	29%
Other Building/Contents	\$15,000,000	10%	\$5,000,000	28%
<b>Total Building/Contents</b>	<b>\$150,000,000</b>	<b>100%</b>	<b>\$30,000,000</b>	<b>22%</b>
Business Disruption	N/A	N/A	2,000,000	N/A
<b>TOTAL</b>	<b>\$122,695,000</b>	<b>N/A</b>	<b>\$50,000,000</b>	<b>N/A</b>

# Flood Risk Assessment

			Estimated Potential Losses for Flood Event Scenarios	
	Total Inventory		1% (100-yr)	
	Estimated Value	% of Total	Dollar Losses	Loss Ratio
<b>Residential Building/Contents</b>	\$100,000,000	75%	\$20,000,000	20%
<b>Commercial Building/Contents</b>	\$20,000,000	15%	\$6,000,000	30%
<b>Other Building/Contents</b>	\$20,000,000	10%	\$6,000,000	30%
<b>Total Building/Contents</b>	\$140,000,000	100%	\$28,000,000	20%
<b>Business Disruption</b>	N/A	N/A	2,000,000	N/A
<b>TOTAL</b>	\$190,000,000	N/A	\$62,000,000	N/A

**Example**

# Urban Flooding Awareness Act

- Passed Illinois General Assembly: August 8, 2014
- Defines “Urban Flooding”
  - means the inundation of property in a built environment, particularly in more densely populated areas, caused by rainfall overwhelming the capacity of drainage systems, such as storm sewers.
- Examples:
  - Basement Flooding
  - Sanitary Sewer backup
  - Seepage through walls and floors
  - Ponding water
- IDNR Report due: June 30, 2015

# Group Breakout Sessions



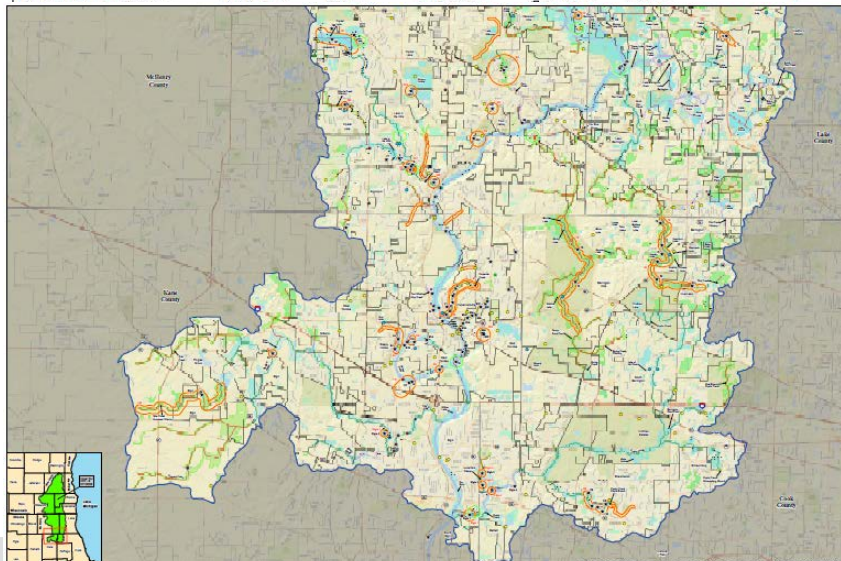
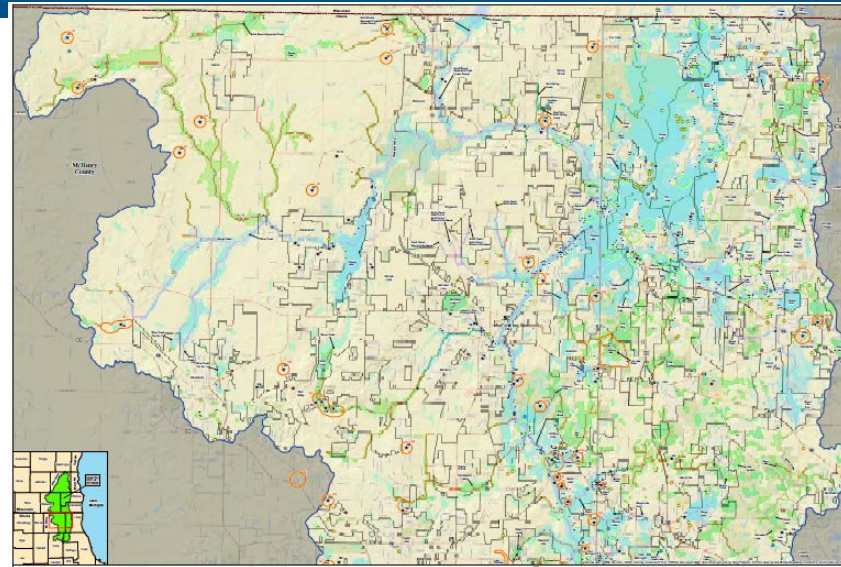


# Comment Review and Update

## McHenry County Discovery Comments - November 2012

Com #	Name	Community	Map	Comment	Update
13	Michele Zimmerman	Algonquin	DM5	Woods Creek Lane overtops during flooding event	
77	Russ Farnum	Algonquin	DM3	Plan underway for Woods/Crystal Creek. Contact Michele Zimmerman at Algonquin Public Works 847-658-4184 (PH called Michele Zimmerman 1/9/2013. This plan is an IEPA watershed water quality study)	
108	Cris Papierniak	Cary	DM4	Spring Street gets overtopped every couple of years. Roadway is covered with <6" of water, brief periods of time.	
109	Cris Papierniak	Cary	DM4	The area has needed to obtain several LOMCs over the years due to inaccurate mapping. Detailed study would benefit residents.	
8	Erik Morimoto	Crystal Lake	DM5	Previous roadway overtopping (North Shore Drive) addressed. -City completed mitigation project in October 2012 to raise road, add culverts beneath pavement and expand conveyance channel.D39	

# Upper Fox Action Discovery Maps



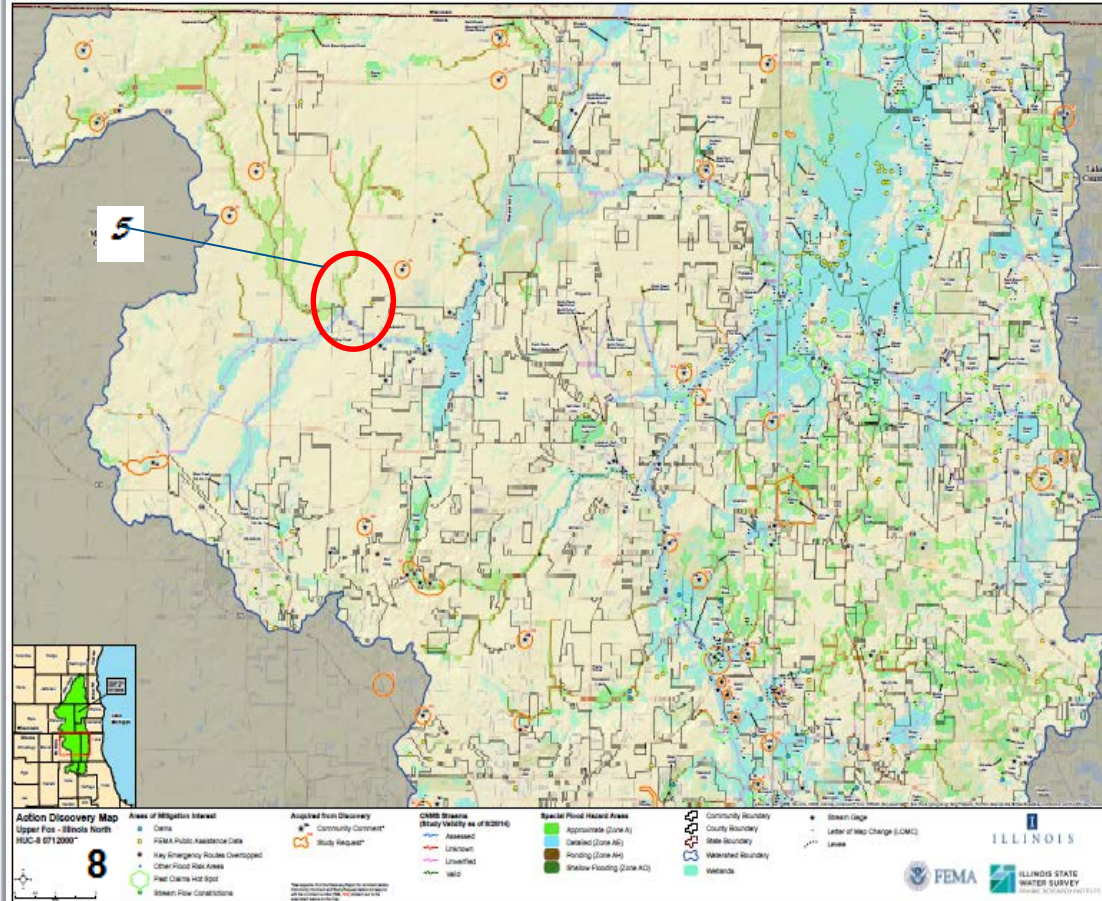
**Action Discovery Map**  
Upper Fox - Illinois South  
RCC 07/2008

<ul style="list-style-type: none"> <li>Area of Mitigation Interest</li> <li>City</li> <li>Illinois Flood Hazardation Data</li> <li>Key Strategic Assets (Highway)</li> <li>Other Flood Risk Areas</li> <li>Flood Control and Dept.</li> <li>Stream Flow Constraints</li> </ul>	<ul style="list-style-type: none"> <li>Assigned Risk Discovery</li> <li>Community Contract</li> <li>Study Report</li> </ul>	<ul style="list-style-type: none"> <li>CRMS Waters</li> <li>Watershed (Zone A)</li> <li>Urban</li> <li>Lowland</li> <li>WLD</li> </ul>	<ul style="list-style-type: none"> <li>Special Flood Hazard Areas</li> <li>Approximate (Zone A)</li> <li>Special (Zone A)</li> <li>Shallow Flooding (Zone A)</li> </ul>	<ul style="list-style-type: none"> <li>Community Boundary</li> <li>County Boundary</li> <li>State Boundary</li> <li>Watershed Boundary</li> <li>Historic</li> </ul>	<ul style="list-style-type: none"> <li>Point of Interest</li> <li>Letter of Map Change (LOMC)</li> <li>Levee</li> </ul>
--	---	--	---	---	---

# Mitigation Action Form and Discovery Map

Upper Fox Watershed Mitigation Action Form #5  
Action Discovery Map# **8** —

1. Flood Risk Type - \_\_\_\_\_
2. Location of Flood Risk Area - \_\_\_\_\_  
\_\_\_\_\_
3. Describe the Flood Risk Area- \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. Please describe the mitigation project(s) that could improve or eliminate the flood risk area.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. Estimated cost of mitigation project - \_\_\_\_\_
6. Estimated time duration of mitigation project - \_\_\_\_\_
7. Possible funding sources - \_\_\_\_\_
8. Contact Name/Title/ - \_\_\_\_\_
9. Contact Email / Phone # \_\_\_\_\_



Project Coordinator: **Hubbert**, Risk MAP Outreach Coordinator, 2204 Griffith Drive, MC-874, Champaign, IL 61820. [hubbert@illinois.edu](mailto:hubbert@illinois.edu), or 217-649-9049